US7620250

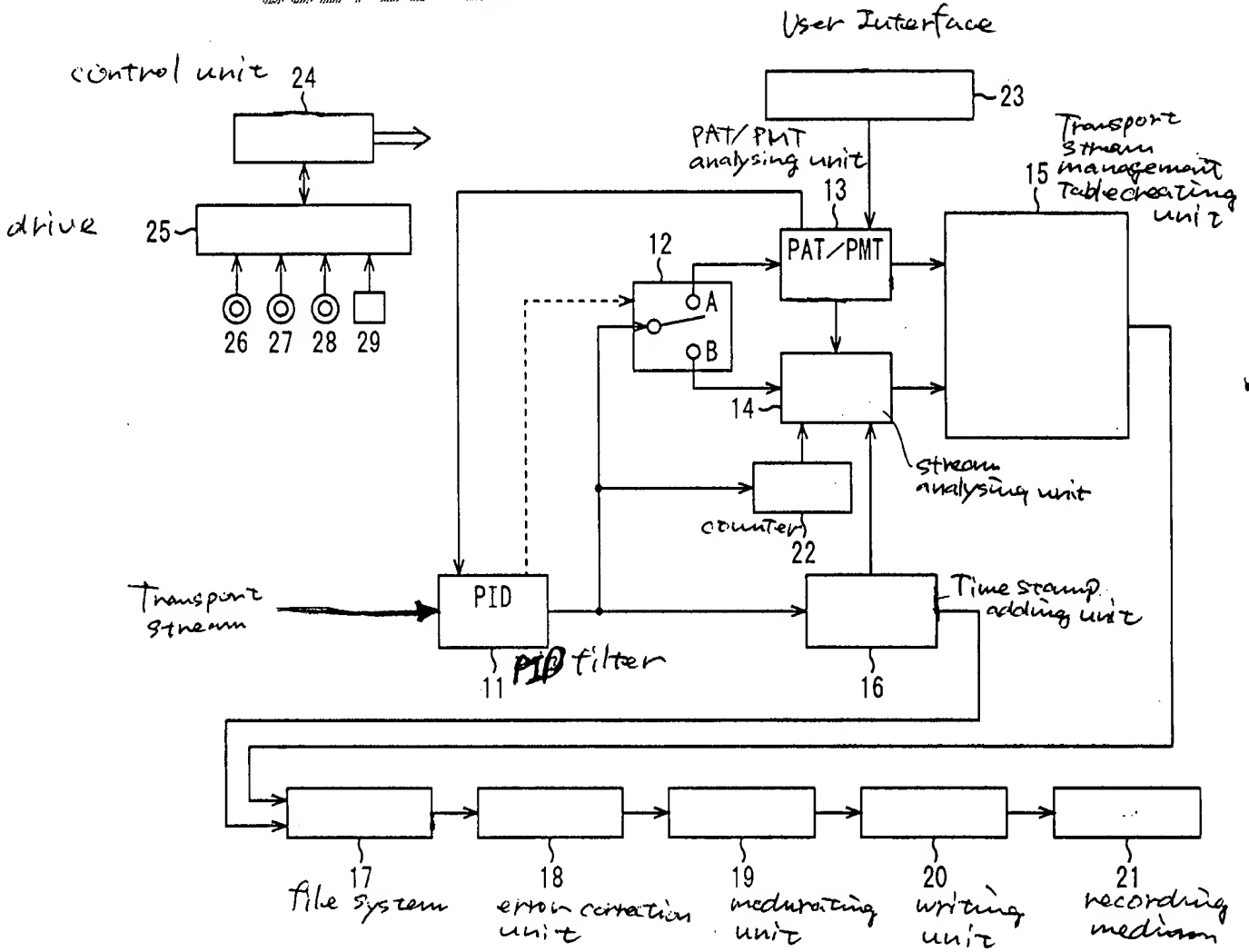


FIG. 1

Syntax	No. of Bits	Mnemonic
transport_packet() {		
sync_byte	8	bslbf
transport_error_indicator	1	bslbf
payload_unit_start_indicator	1	bslbf
transport_priority	1	bslbf
PID	13	uimsbf
transport_scrambling_control	2	bslbf
adaptation_field_control	2	bslbf
continutiy_counter	4	uimsbf
if(adaptation_field_control=='10' || adaptation_field_control=='11') {		
adaptation_field()		
}		
if(adaptation_field_control=='01' || adaptation_field_control=='11') {		
for(i=0;i<N;i++) {		
data_byte	8	bslbf
}		
}		
}		

FIG. 2

Syntax	No. of Bits	Mnemonic
adaptation_field() {	8	uimsbf
adaptation_field_length		
if (adaptation_field_length>0) {	1	bslbf
discontinuity_indicator	1	bslbf
random_access_indicator	1	bslbf
elementary_stream_priority_indicator	1	bslbf
PCR_flag	1	bslbf
OPCR_flag	1	bslbf
splicing_point_flag	1	bslbf
transport_private_data_flag	1	bslbf
adaptation_field_extension_flag		
if(PCR_flag == '1') {	33	uimsbf
program_clock_reference_base	6	bslbf
reserved	9	uimsbf
program_clock_reference_extension		
}		
if(OPCR_flag == '1') {	33	uimsbf
original_program_clock_reference_base	6	bslbf
reserved	9	uimsbf
original_program_clock_reference_extension		
}		
if(splicing_point_flag == '1') {	8	tcimsbf
splice_countdown		
}		
if(transport_private_data_flag == '1') {	8	uimsbf
transport_private_data_length		
for (i=0; i<transport_private_data_length;i++){	8	bslbf
private_data_byte		
}		
}		
if(adaptation_field_extension_flag == '1') {		
adaptation_field_extension_length	8	uimsbf
ltw_flag	1	bslbf
piecewise_rate_flag	1	bslbf
seamless_splice_flag	1	bslbf
reserved	5	bslbf
if(ltw_flag == '1') {		
ltw_valid_flag	1	bslbf
ltw_offset	15	uimsbf
}		
if(piecewise_rate_flag == '1') {		
reserved	2	bslbf
piecewise_rate	22	umisbf
}		
if(seamless_splice_flag == '1') {		
splice_type	4	bslbf
DTS_next_AU[32..30]	3	bslbf
marker_bit	1	bslbf
DTS_next_AU[29..15]	15	bslbf
marker_bit	1	bslbf
DTS_next_AU[14..0]	15	bslbf
marker_bit	1	bslbf
}		
for(i=0;i<N;i++) {		
reserved	8	bslbf
}		
}		
for(i=0;i<N;i++) {		
stuffling_byte	8	bslbf
}		
}		
}		

FIG. 3

FIG. 4(A)

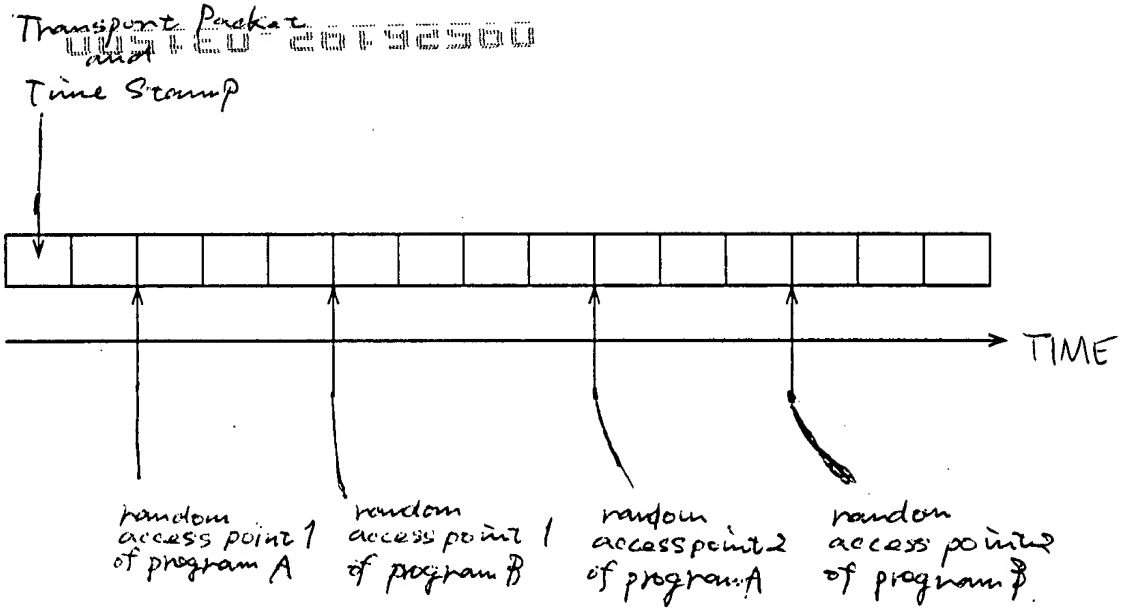


FIG. 4(B)

random access point list of video data

program A	program B
video packet PID	video packet PID

Time Stamp and address of video access point 1

Time Stamp and address of video access point 2

Time Stamp and address of video access point 1

Time Stamp and address of video access point 2

FIG. 5(A)

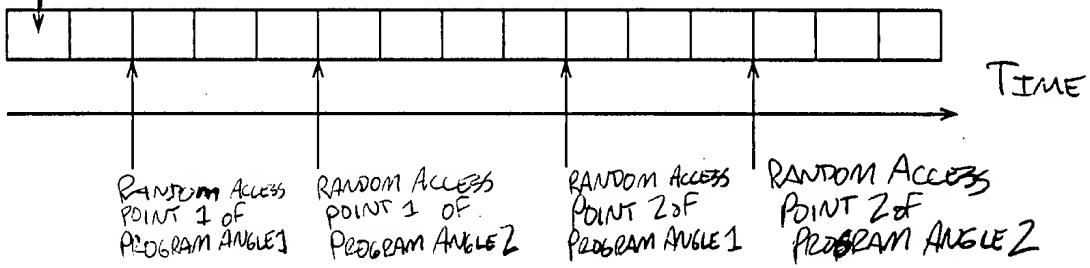
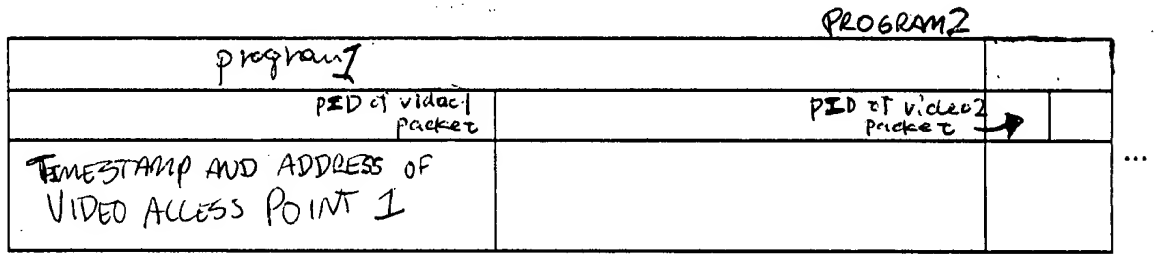

TRANSPORT PACKET AND TIME STAMP
TIME
RANDOM ACCESS POINT 1 OF PROGRAM ANGLE1
RANDOM ACCESS POINT 1 OF PROGRAM ANGLE2
RANDOM ACCESS POINT 2 OF PROGRAM ANGLE 1
RANDOM ACCESS POINT 2 OF PROGRAM ANGLE 2

FIG. 5(B)


PROGRAM2
program1
PID of vidac1 packet
PID of video2 packet
TIMESTAMP AND ADDRESS OF VIDEO ACCESS POINT 1

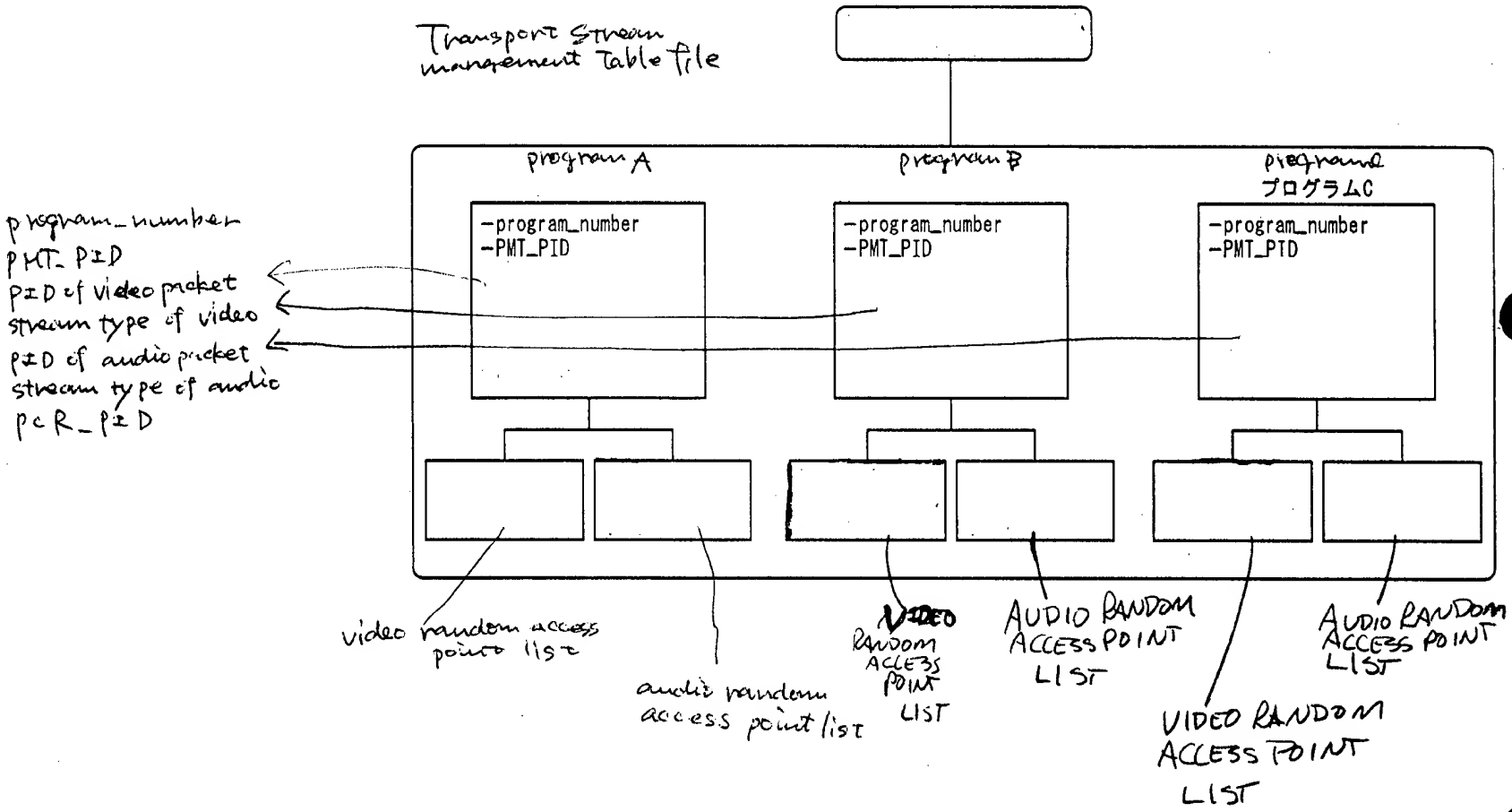

Transport Stream management Table file
program A
program B
program C
プログラムC
-program_number
-PMT_PID
-program_number
-PMT_PID
-program_number
-PMT_PID
program_number
PMT_PID
PID of video packet
stream type of video
PID of audio packet
stream type of audio
PCR_PID
video random access point list
audio random access point list
VIDEO RANDOM ACCESS POINT LIST
AUDIO RANDOM ACCESS POINT LIST
VIDEO RANDOM ACCESS POINT LIST
AUDIO RANDOM ACCESS POINT LIST

FIG. 6

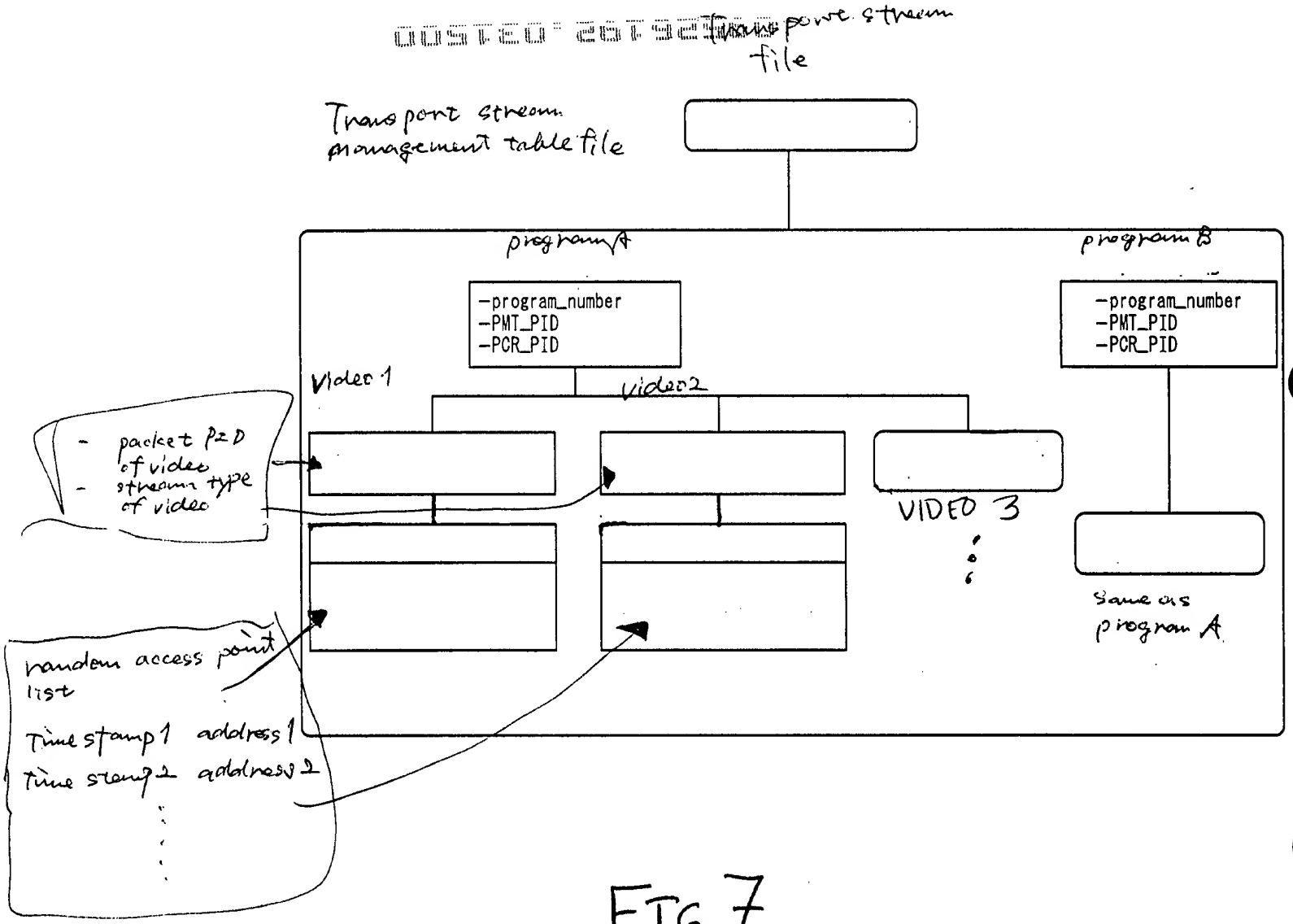

Transport stream file
Transport stream management table file
program A
program B
-program_number
-PMT_PID
-PCR_PID
-program_number
-PMT_PID
-PCR_PID
Video 1
Video 2
VIDEO 3
- packet PID of video
- stream type of video
random access point list
Time stamp 1 address 1
Time stamp 2 address 2
Same as program A

FIG. 7

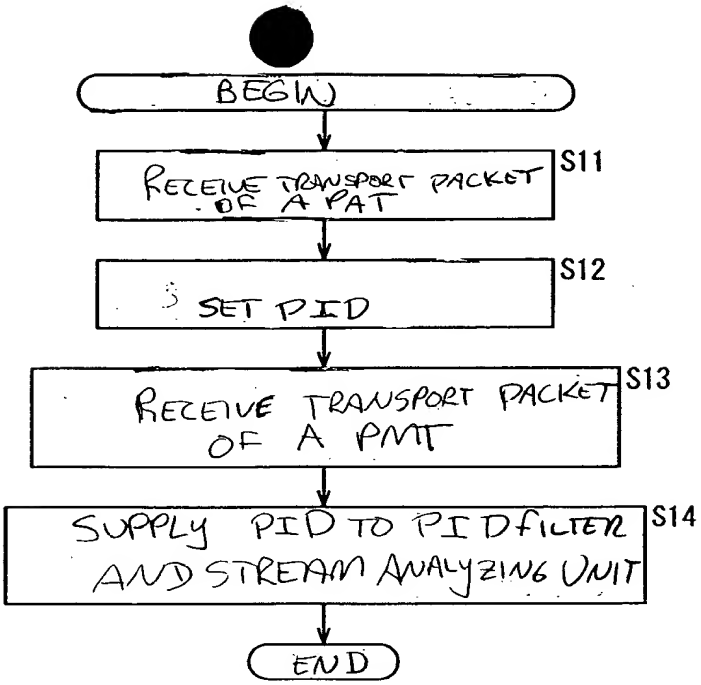

BEGIN
RECEIVE TRANSPORT PACKET OF A PAT
S11
SET PID
S12
RECEIVE TRANSPORT PACKET OF A PMT
S13
SUPPLY PID TO PID FILTER AND STREAM ANALYZING UNIT
S14
END

FIG. 8

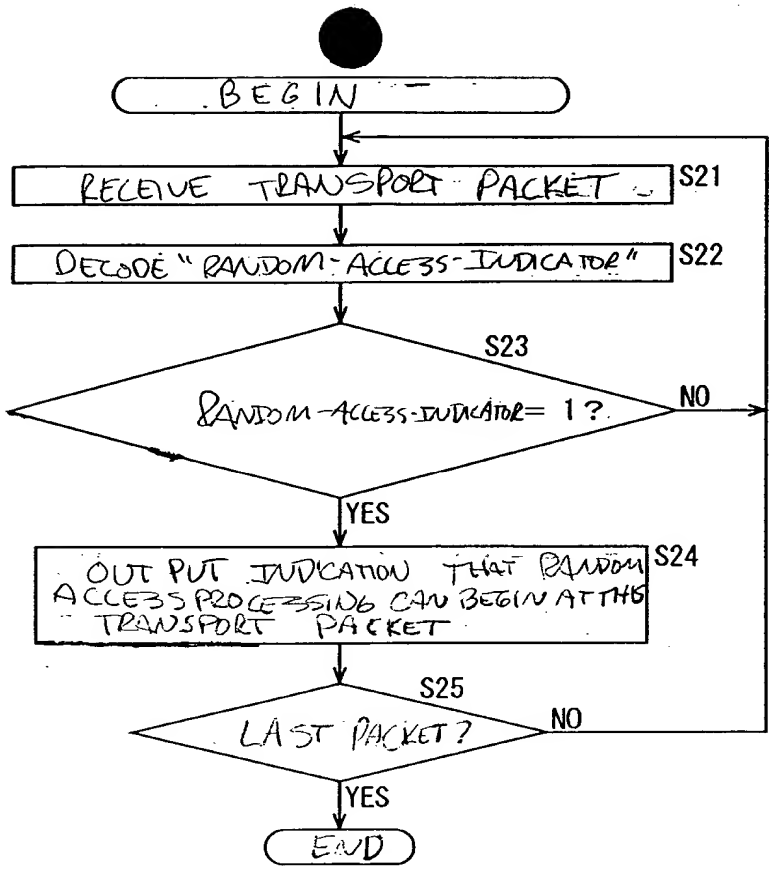

BEGIN
RECEIVE TRANSPORT PACKET
S21
DECODE "RANDOM-ACCESS-INDICATOR"
S22
S23
RANDOM-ACCESS-INDICATOR= 1 ?
NO
YES
OUT PUT INDICATION THAT RANDOM ACCESS PROCESSING CAN BEGIN AT THIS TRANSPORT PACKET
S24
S25
LAST PACKET?
NO
YES
END

FIG. 9

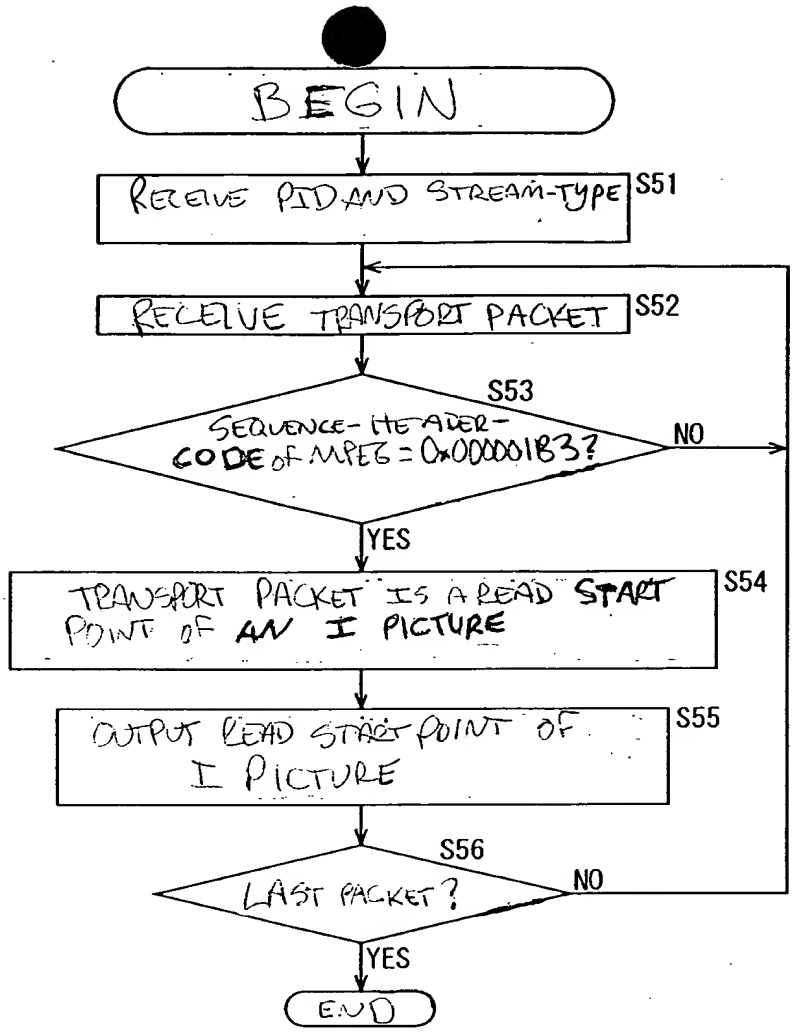

BEGIN
RECEIVE PID AND STREAM-TYPE
S51
RECEIVE TRANSPORT PACKET
S52
S53
SEQUENCE-HEADER-CODE of MPEG = 0x000001B3?
NO
YES
TRANSPORT PACKET IS A READ START POINT OF AN I PICTURE
S54
OUTPUT READ START POINT OF I PICTURE
S55
S56
LAST PACKET?
NO
YES
END

FIG. 10

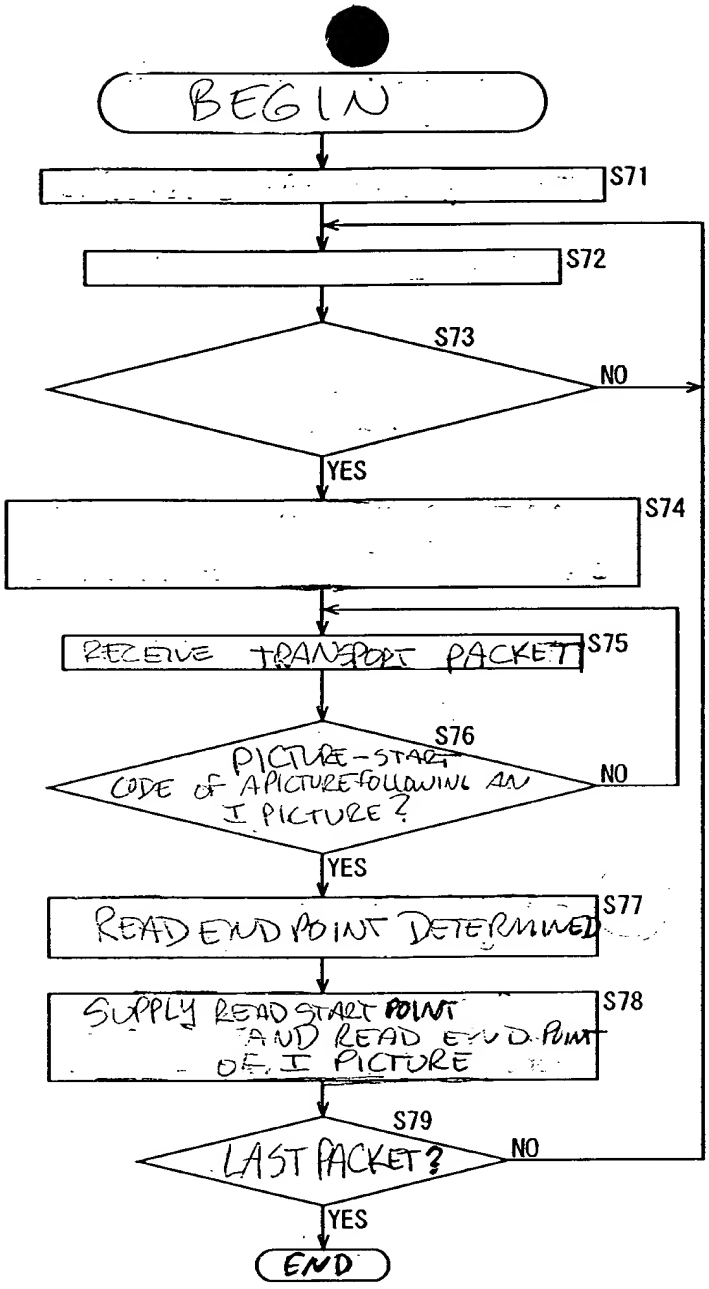

BEGIN
S71
S72
S73
NO
YES
S74
RECEIVE TRANSPORT PACKET
S75
S76
PICTURE-START CODE OF A PICTURE FOLLOWING AN I PICTURE?
NO
YES
READ END POINT DETERMINED
S77
SUPPLY READ START POINT AND READ END POINT OF I PICTURE
S78
S79
LAST PACKET?
NO
YES
END

FIG. 11

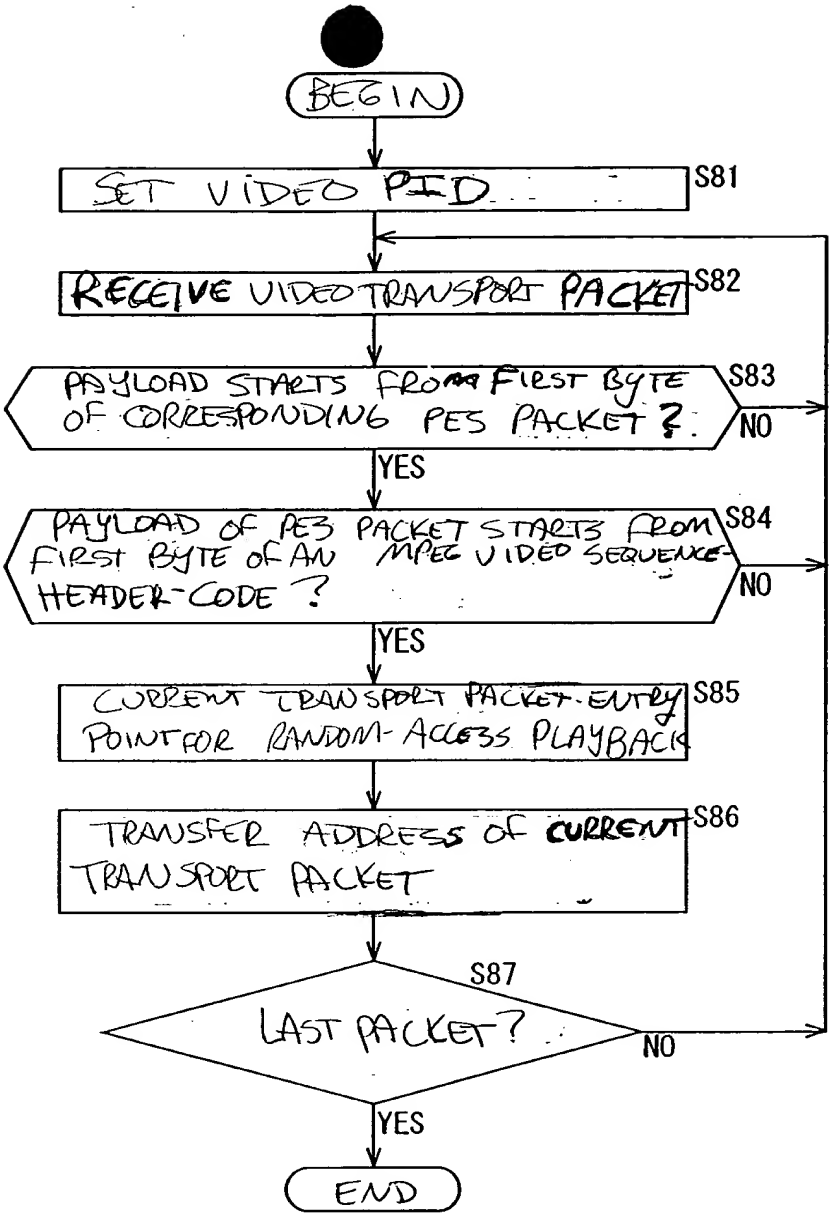

BEGIN
SET VIDEO PID
S81
RECEIVE VIDEO TRANSPORT PACKET
S82
PAYLOAD STARTS FROM FIRST BYTE OF CORRESPONDING PES PACKET ?
S83
NO
YES
PAYLOAD OF PES PACKET STARTS FROM FIRST BYTE OF AN MPEG VIDEO SEQUENCE HEADER CODE ?
S84
NO
YES
CURRENT TRANSPORT PACKET ENTRY POINT FOR RANDOM-ACCESS PLAYBACK
S85
TRANSFER ADDRESS OF CURRENT TRANSPORT PACKET
S86
S87
LAST PACKET?
NO
YES
END

FIG. 12

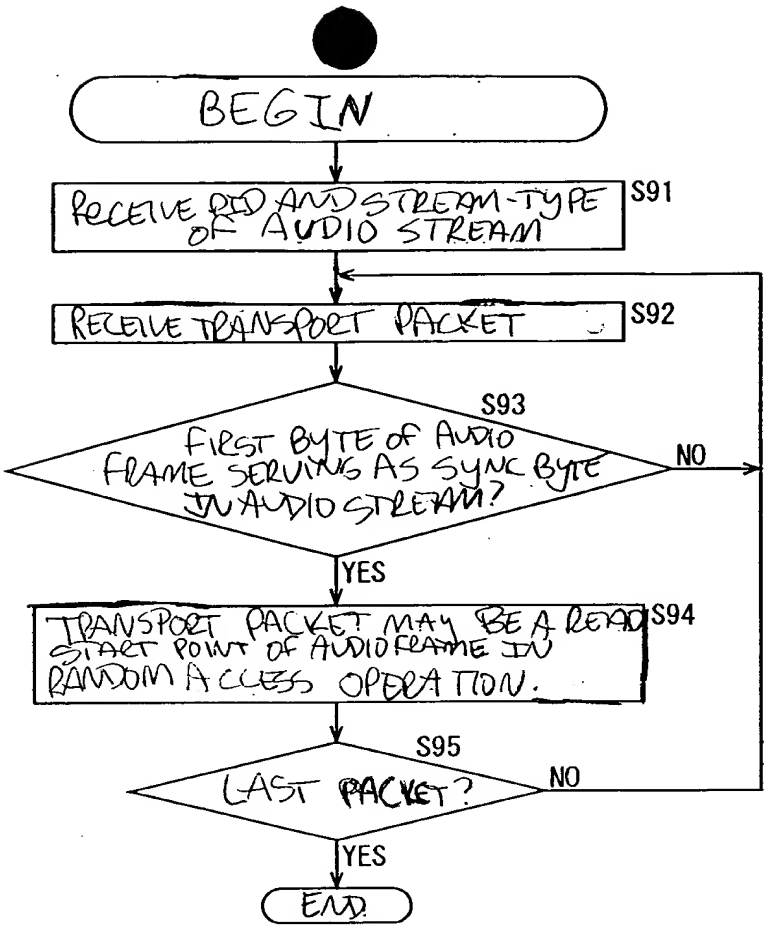

BEGIN
RECEIVE PID AND STREAM-TYPE OF AUDIO STREAM
S91
RECEIVE TRANSPORT PACKET
S92
S93
FIRST BYTE OF AUDIO FRAME SERVING AS SYNC BYTE IN AUDIO STREAM?
NO
YES
TRANSPORT PACKET MAY BE A READ START POINT OF AUDIO FRAME IN RANDOM ACCESS OPERATION.
S94
S95
LAST PACKET?
NO
YES
END

FIG. 13

0054E0 20130560

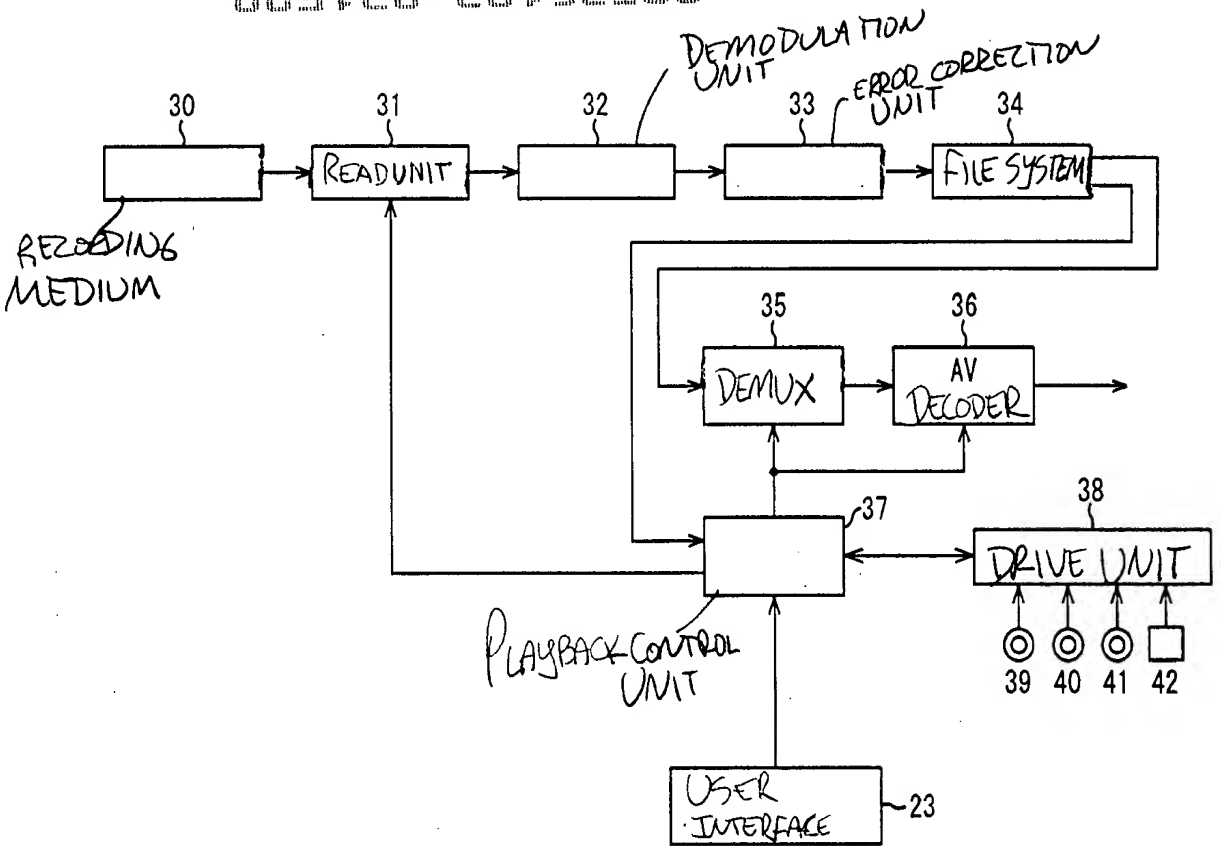


FIG. 14

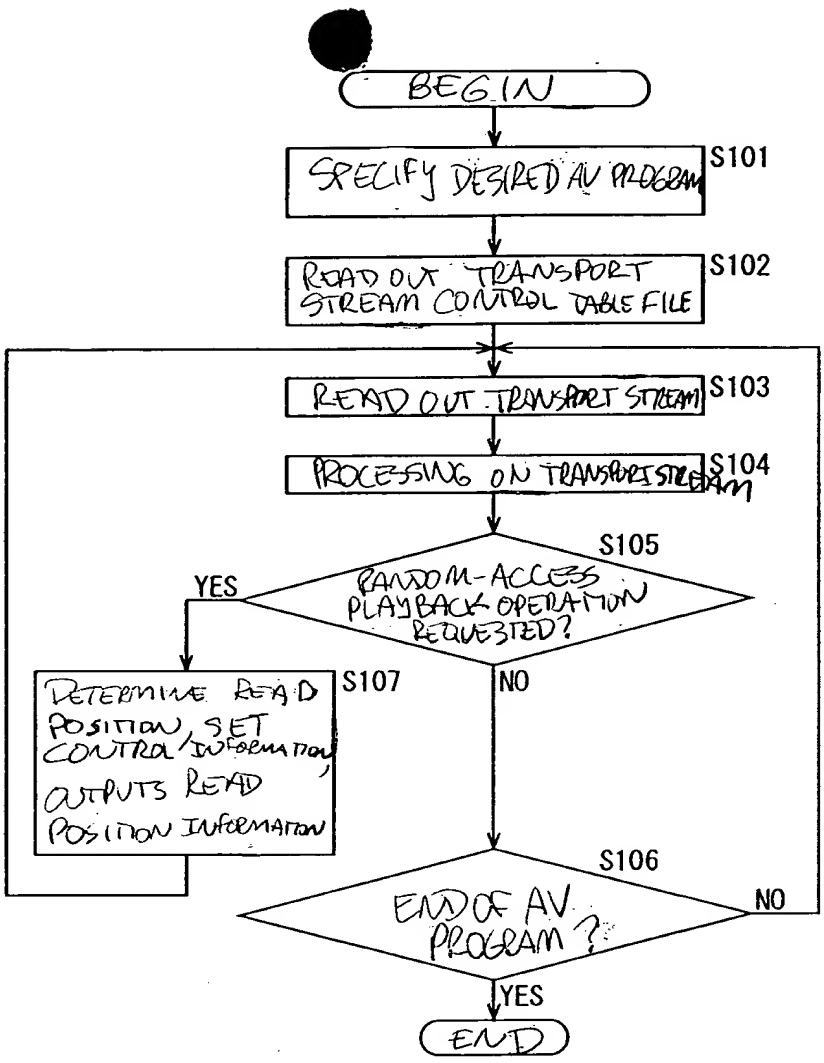

BEGIN
SPECIFY DESIRED AV PROGRAM
S101
READ OUT TRANSPORT STREAM CONTROL TABLE FILE
S102
READ OUT TRANSPORT STREAM
S103
PROCESSING ON TRANSPORT STREAM
S104
S105
RANDOM-ACCESS PLAYBACK OPERATION REQUESTED?
YES
NO
DETERMINE READ POSITION, SET CONTROL INFORMATION, OUTPUTS READ POSITION INFORMATION
S107
S106
END OF AV PROGRAM?
NO
YES
END

FIG. 15